CLAIMS

1. (Withdrawn) A device, comprising:

a connection manager to:

generate a connection type and connection specification for new connection requests;

define classification rules to allow classification of packets from applications to connections; and

a bearer manager to:

obtain bandwidth allocations for the connections from a central coordinator;

map connections to a corresponding bandwidth allocation.

2. (Withdrawn) The device of claim 1, the device further comprising a transport system to provide interface between applications and the connections.

3. (Currently amended) A method of establishing communications in a centralized wired network, the method comprising:

providing a centralized wired network characterized by having a single, common physical wired connection interconnecting all devices currently attached to the network, so that all communications among the attached network devices travel directly over the wired connection without traversing a router or switch, or a wireless link;

attaching a device to the centralized wired network so that the device is electrically coupled to the common wired connection;

providing at least one service access point (SAP) in the attached device, each service access point arranged for interfacing with a corresponding specific type of application data;

installing a software application in the attached device, the software application arranged to produce a particular type of application data; and

in the attached device, selecting a service access point of the attached device that is specific to the particular type of application data produced by the installed software application and associating the selected service access point (SAP) with the installed software application;

determining that a connection needs to be established in response to receiving a request for a connection from the installed software application in the attached device;

generating a connection type and a connection specification;

providing a single central coordinator in the centralized wired network to manage connections over the network;

sending a request to the central coordinator for a connection, the request including the connection type and the connection specification;

in the central coordinator, granting the request for a connection, and assigning a connection identifier (CID) that is unique over the centralized wired network; and

~~if the connection is granted,~~ associating [[a]] the assigned unique connection identifier with the selected service access point.

4. (Canceled)

5. (Previously Presented) The method of claim 3, determining that a connection needs to be established further comprising determining that a connection does not exist and automatically establishing a connection and further wherein the centralized wired network comprises a power line communication (PLC) network.

6. (Previously Presented) The method of claim 5, generating a connection type including:

identifying the associated service access point of the requesting application; generating a connection type based upon the associated service access point of the requesting application.

7. (Previously Presented) The method of claim 6, said generating a connecting type comprising generating a connection type based upon messages received from the application requesting a traffic flow;

and wherein the associated service access point is one of an audio-video service access point (AV-SAP), an internet protocol service access point (IP-SAP), and an 802.2 packet data service access point (802.2-SAP).

8. (Previously Presented) The method of claim 5, requesting a connection further comprising requesting a connection selected from the group comprising: continuous grant service, periodic grant service and aperiodic grant service.

9. (Original) The method of claim 8, requesting a connection further comprising requesting a connection selection from the group comprising: unicast, multicast and broadcast.

10. (Original) The method of claim 5, generating a connection specification further comprising generating a connection specification based upon information within protocols encapsulating application data received through the service access points.

11. (Original) The method of claim 5, generating a connection specification further comprising generating a connection specification based upon a direct specification from an application.

12. (Previously Presented) The method of claim 5, generating a connection type further comprising generating a connection type as one of the group comprised of continuous grant, periodic grant, and priority aperiodic grant.

13. (Previously Presented) A method of establishing a multicast connection in a centralized wired communication system, the method comprising:

creating multiple point-to-point connections between a source device and at least two destination devices;

replicating application data such that a replica exists for each destination device; and

transmitting the replicas on the point-to-point connections;

wherein each connection is associated with a corresponding service access point of a transport layer of the source device;

each connection is associated with a corresponding transport layer port of the transport layer of the source device; and

each connection is assigned a connection identifier that is globally unique throughout the centralized network for use in routing data packets from the source device to selected ports in the destination devices.

14. (Original) The method of claim 13, wherein at least two devices further comprises less than all possible destination devices.

15. (Original) The method of claim 13, wherein at least two devices further comprises all possible destination devices for the application data.

16. (Currently amended) A method of broadcasting a message in a centralized wired power line communication network, the method comprising:

providing a centralized wired network characterized by having a single, common physical wired connection interconnecting all devices attached to the network, so that all communications among the attached network devices travel directly over the wired connection;

providing a local bandwidth manager in each device attached to the centralized network;

in an attached device, receiving a broadcast message from a user application in that device, and storing the broadcast message in a buffer;

in the local bandwidth manager, responsive to the buffered broadcast message, sending a bandwidth request to ~~requesting a bandwidth allocation from~~ a central coordinator attached to the wired network;

in the local bandwidth manager, receiving an indication of a bandwidth allocation on a dedicated broadcast channel within the centralized wired network; the dedicated bandwidth channel defined as a logical channel on the common physical wired connection interconnecting all devices attached to the power line communication network;

wherein the bandwidth allocation is transmitted from the central coordinator to the local bandwidth manager over a predetermined beacon channel; and then

transmitting [[a]] the buffered broadcast message on the dedicated broadcast channel of the centralized network in accordance with the received indication of a bandwidth allocation so that the broadcast message travels directly over the common physical wired connection from the

transmitting device to every other device attached to the centralized network without traversing an intermediary broadcast facility.

17. (Withdrawn) A method of monitoring connections, the method comprising:

determining whether a traffic flow on a connection has attributes that conform to predefined attributes in a connection specification;

if the traffic flow does not have the attributes that conform to the predefined attributes:

informing a connection manager; and

performing a remedial action on the connection.

18. (Withdrawn) The method of claim 17, determining whether a traffic flow has attributes that conform further comprising monitoring traffic flow on a receiving device.

19. (Withdrawn) The method of claim 17, determining whether a traffic flow has attributes that conform further comprising monitoring traffic flow on a transmitting device.

20. (Withdrawn) The method of claim 17, performing a remedial action further comprising informing a central coordinator of a violation and the central coordinator requests a reconfiguration of a bearer carrying the connection.

21. (Withdrawn) The method of claim 17, performing a remedial action further comprising informing a central coordinator that prevents sharing of bandwidth between the connection and other connections or control channels.

22. (Withdrawn) The method of claim 17, performing a remedial action further comprising generating a new connection specification and informing a peer connection manager of the new connection specification.

23. (Withdrawn) A method of implementing a connection between devices in a centralized network, the method comprising:

in a first network device, installing an application program;

in the first network device, selecting a service access point appropriate to a type of data associated with the installed application program;

associating the installed application with the selected service access point;

requesting a connection via a network transport layer between the installed application and a peer application on a destination device in the network; and

receiving a globally unique connection identifier CID associated with the requested connection;

wherein the selected service access point has a corresponding classifier in the network transport layer, for matching a received transport layer packet to the associated connection identifier CID.

24. (Withdrawn) A method of implementing a connection in a centralized network according to claim 23 wherein the classifier is defined by a predetermined series of rules provided by a connection manager for use in matching the received transport layer packet to the associated connection.

25. (Withdrawn) A method of implementing a connection in a centralized network according to claim 24 wherein each classifier rule comprises a set of matching criteria or parameters to apply to the packet, a rule priority and a connection identifier CID.

26. (Withdrawn) A method of implementing a connection in a centralized network according to claim 25 and further comprising:

receiving a packet at a port of the transport layer of the destination device;

in the transport layer of the destination device, comparing the received packet parameters to the classifier rules associated with the port to find a match;

if a match is found, associating the received packet with the corresponding connection identifier CID; and then

delivering the received packet to a service access point of the destination device associated with the corresponding connection identifier CID.

27. (Withdrawn) A method of implementing a connection in a centralized network according to claim 26 and further wherein:

the CID to which the received packet belongs in contained in the packet; and

the classifier used the CID for selecting a transport layer port to deliver the packet.

28. (Previously Presented) A method of broadcasting a message according to claim 16 and further comprising:

receiving the broadcast message in a destination device on the centralized network; and

in the destination device, sending an acknowledgment message to the transmitting device.

29. (Previously presented) A method of broadcasting a message according to claim 28 and further comprising:

in the transmitting device, receiving acknowledgement messages from other devices in the centralized network;

associating the received acknowledgement messages with the broadcast message; and

determining whether or not to re-try transmitting the broadcast message.